

REMARKS

Claims 1-3, 5-9, 11-14, and 16-22 remain in the application for further prosecution.

Claims 11 and 16-18 have been amended. Claims 23-25 have been added.

Rejection § 102

Independent claims 1 and 22 are directed to systems for providing power to more than one ultrasonic welding probe from a single power supply. Both claims 1 and 22 also include the limitation of “at least one programmable logic component provided within said multiple probe controller for detecting the power status of said first ultrasonic welding probe and said second ultrasonic welding probe and further for generating a first ultrasonic welding probe status signal and a second ultrasonic welding probe status signal.” As stated in the specification of the present application, the programmable logic component detects the power status of the various probes so as to allow “for the provisioning of ultrasound power from the ultrasonic generator 12 to one ultrasonic probe 18 at a time.” P. 6, ll. 23-24. *See also* FIG. 2 and p. 8, ll. 11-20. Because it is important to know when the ultrasonic probe has completely powered down, the power status of the probes must be known.

U.S. Patent No. 4,549,684 (“Telly”) does not disclose “detecting the power status of said first ultrasonic welding probe and said second ultrasonic welding probe and further for generating a first ultrasonic welding probe status signal and a second ultrasonic welding probe status signal.” Telly is directed to utilizing a single radio frequency power generator to provide a different r.f. signal to each of a plurality of transducers. Abstract. The controller 44 of the Telly system operates by closing one of a plurality of relays 42a, in order to provide power to one of the horns. Col. 10, ll. 24-50. When one of the relays 42a is closed, the other relays 42b, 42c, 42d are opened, preventing the flow of power to the other relays. *Id.* The horn is powered for a predetermined amount of time, after which the sequence is reversed and the subsequent welding horns are sequentially energized. *Id.* at 50-55.

In contrast, the present invention as claimed in claims 1 and 22 does not automatically switch power to the subsequent ultrasonic probes. As described in the specification, the system waits until the ultrasonic probe has powered down and stopped vibrating. In order to determine that the probe has powered down, the programmable logic component detects the power status of the welding probes. Telly does not teach or disclose waiting for the horns to stop vibrating; instead, the horns are automatically energized based upon the power to another horn being cut-off. Therefore, claims 1 and 22 and their dependents are believed to be allowable over Telly.

Claim 14 is directed to a system for providing power from one ultrasonic welding power supply to a plurality of ultrasonic welding probes and includes the limitation that a multiple probe controller is adapted to change power from one of the probes to another only when “said powered ultrasonic welding probe has proceeded through a ring-down period.” Telly does not disclose waiting until the powered ultrasonic welding probe has proceeded through a ring-down period. Telly discloses sequentially energizing the subsequent horns once the power to the powered horn has been cut-off. There is no disclosure of a ring-down period. Because Telly does not disclose only powering the subsequent ultrasonic probes after the powered probe has proceeded through a ring-down period, claim 14 and its dependents are believed to be in condition for allowance.

Rejection § 103

Independent claim 7 is directed to a method of providing power to more than one ultrasonic welding probe. The method includes “terminating the provision of power to said first ultrasonic welding probe” and “monitoring said first ultrasonic welding probe power status signal.” As described in reference to claims 1 and 22, the specification of the present application describes that the power of the first powered ultrasonic probe is monitored to determine when the probe stops vibrating. P. 6, ll. 23-24. *See also* FIG. 2 and p. 8, ll. 11-20. Once the vibration has ceased, and there is no power transmitted to the first ultrasonic welding probe, then power is provided to the second ultrasonic welding probe.

As stated above in reference to claims 1 and 22, Telly does not disclose monitoring the first ultrasonic welding probe power status signal. Instead, Telly turns off the power to one horn and immediately switches the power to the subsequent horn. U.S. Patent No. 4,746,051 (“Peter”) also does not disclose this feature. Peter is directed to a method and apparatus for controlling ultrasonic welding and determining whether the weld is of sufficient quality. Abstract. Peter discloses utilizing a power generator to provide power to a single horn 48. FIG. 1 and col. 2, ll. 61-67. There is no disclosure of multiple horns or how the horns should be powered.

In order to prove a *prima facie* case of obviousness, the combined references must disclose each and every limitation of the claim. Because Telly and Peter, either alone or in combination, fail to disclose “monitoring said first ultrasonic welding probe power status signal,” claim 7 and its dependent claims are believed to be allowable.

Claims 16 and 17 are dependent upon claim 14 and therefore include the limitation that the provision of power is changed from one probe to another only when “said powered ultrasonic welding probe has proceeded through a ring-down period.” As stated above, in reference to claim 14, Telly does not disclose waiting for a ring-down period before switching power. Peter also does not disclose such a feature. Peter is directed to a single horn and does not provide any disclosure for how to switch power between multiple horns. Because neither Telly or Peter, alone or in combination, disclose switching power only after a ring-down period has occurred, claims 16 and 17 are believed to be allowable.

New Claims

New claims 23-25 have been added and each include the limitation that power is not supplied to a second ultrasonic probe until after the first ultrasonic probe has gone through a ring-down period. This limitation is discussed above in relation to claim 14. For at least the same reasons as discussed above regarding claims 14, 16, and 17, claims 23-25 are believed to be allowable.

Double Patenting

Claims 1-3, 5-9, 11-4, and 16-22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over co-pending Application No. 11/214,660, either alone or in combination with Peter.

To overcome this rejection, a Terminal Disclaimer is submitted herewith. This Terminal Disclaimer should not be construed as an admission to the merits of the obviousness-type double-patenting rejections pursuant to Quad Environmental Technologies Corp. v. Union Sanitary District, 946 F.2d 870 (Fed. Cir. 1991).

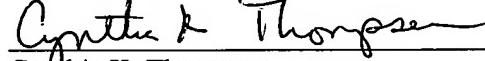
Conclusion

It is the Applicant's belief that all of the claims are now in condition for allowance, and action towards that end is respectfully requested.

If there are any matters which may be resolved or clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney at the number indicated.

Respectfully submitted,

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Cynthia K. Thompson
Reg. No. 48,655
Jenkens & Gilchrist
225 W. Washington St.
Suite 2600
Chicago, IL 60606
(312) 425-8513
Attorney for Applicant